What is claimed is:

1. A coated article having enhanced reversible thermal properties, comprising:

a substrate having a surface; and

a coating covering a portion of the surface and comprising a polymeric material and a temperature regulating material dispersed in the polymeric material, wherein the coating is formed with a plurality of regions of discontinuity that are separated from one another and expose a remaining portion of the surface to provide improved flexibility and air permeability to the coated article.

2. The coated article of claim 1, wherein the substrate is a fabric, film, foam, or leather.

3. The coated article of claim 1, wherein the temperature regulating material comprises a plurality of microcapsules that contain a phase change material.

4. The coated article of claim 1, wherein the temperature regulating material comprises silica particles, zeolite particles, carbon particles, or an absorbent material impregnated with a phase change material.

5. The coated article of claim 1, wherein the temperature regulating material comprises a solid/solid phase change material.

6. The coated article of claim 1, wherein the temperature regulating material comprises a polymeric phase change material.

7. The coated article of claim 1, wherein the coating covers between 1 to 99 percent of the surface of the substrate.

8. The coated article of claim 7, wherein the coating covers between 50 to 90 percent of the surface of the substrate.

9. The coated article of claim 1, wherein the coating is formed in a crisscross pattern, grid pattern, honeycomb pattern, or random pattern.

10. The coated article of claim 1, wherein the regions of discontinuity are distributed substantially uniformly across the surface of the substrate.

11. The coated article of claim 1, wherein at least two regions of discontinuity have different shapes or sizes.

12. The coated article of claim 1, wherein the regions of discontinuity have shapes that are independently selected from the group consisting of circular, half-circular, diamond-shaped, hexagonal, multi-lobal, octagonal, oval, pentagonal, rectangular, square-shaped, star-shaped, trapezoidal, triangular, and wedge-shaped.

13. The coated article of claim 1, wherein the regions of discontinuity have sizes ranging from 1 mm to 10 mm.

14. A coated article having enhanced reversible thermal properties, comprising:

a substrate having a surface; and

a coating covering a portion of the surface and comprising a polymeric material and a temperature regulating material dispersed in the polymeric material, wherein the coating is formed as a plurality of coating regions that are distributed substantially uniformly across the surface and are separated from one another to provide improved flexibility and air permeability to the coated article.

15. The coated article of claim 14, wherein the substrate is a fabric, film, foam, or leather.

16. The coated article of claim 14, wherein the temperature regulating material comprises a plurality of microcapsules that contain a phase change material.

17. The coated article of claim 14, wherein the temperature regulating material comprises silica particles, zeolite particles, carbon particles, or an absorbent material impregnated with a phase change material.

18. The coated article of claim 14, wherein the temperature regulating material comprises a solid/solid phase change material.

19. The coated article of claim 14, wherein the temperature regulating material comprises a polymeric phase change material.

20. The coated article of claim 14, wherein the coating covers between 1 to 99 percent of the surface of the substrate.

21. The coated article of claim 20, wherein the coating covers between 50 to 90 percent of the surface of the substrate.

22. The coated article of claim 14, wherein at least two coating regions have different shapes or sizes.

23. The coated article of claim 14, wherein the coating regions have shapes that are independently selected from the group consisting of circular, half-circular, diamond-shaped, hexagonal, multi-lobal, octagonal, oval, pentagonal, rectangular, square-shaped, star-shaped, trapezoidal, triangular, and wedge-shaped.

24. The coated article of claim14, wherein the coating regions have sizes ranging from 1 mm to 4 mm.

25. A coated article having enhanced reversible thermal properties, comprising:

a substrate having a surface; and

a coating covering a portion of the surface and comprising a polymeric phase change material, wherein the coating is formed in a pattern that exposes a remaining portion of the surface to provide improved flexibility and air permeability to the coated article.

26. The coated article of claim 25, wherein the substrate is a fabric, film, foam, or leather.

27. The coated article of claim 25, wherein the polymeric phase change material has a transition temperature in the range of 22°C to 40°C.

28. The coated article of claim 25, wherein the coating is formed in a crisscross pattern, dot pattern, grid pattern, honeycomb pattern, or random pattern.

29. The coated article of claim 25, wherein the coating is formed with a plurality of regions of discontinuity that are separated from one another.

30. The coated article of claim 25, wherein the coating is formed as a plurality of coating regions that are separated from one another.